

Utah Department of Transportation Traffic Management Division

January 2015
Monthly Report



2060 South 2760 West Salt Lake City, Utah 84104 801-887-3710 www.udottraffic.utah.gov



Mission of the Traffic Management Division

- To Support UDOT and the Department of Public Safety to Achieve Zero Fatalities.
- To Help Provide Reliable and Efficient Travel Throughout Utah.
- To Provide Useful and Timely Real-time Traffic Information.
- To Work Together with Other Government Agencies to Serve the Public.
- To Provide Excellent Customer Service.

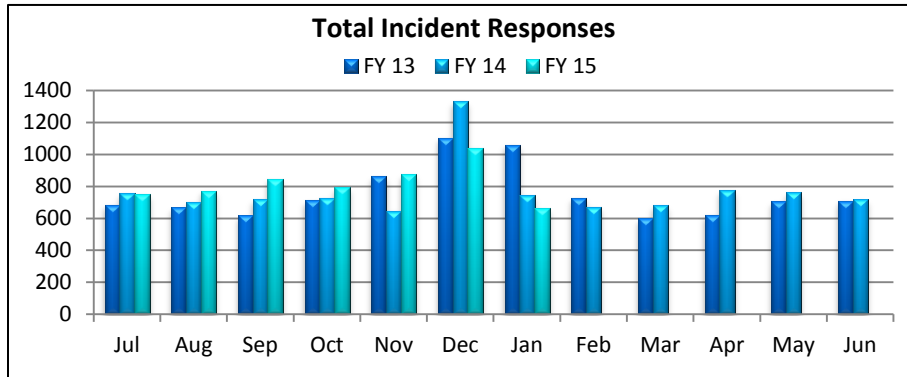
Field Devices Summary

Freeway PTZ Cameras	363	Freeway VMS	95
Arterial PTZ Cameras	421	Surface Street VMS	49
RWIS & Contracted Weather Cameras	177	Portable TOC VMS	5
Viewable Detection Cameras	67	Legacy Trucks Prohibited VMS	21
Total Cameras	1028	Variable Speed Limit VMS	15
HAR (27 permanent/5 portable)	32	Chain-Up Signs	6
RWIS	95	Total VMS	191
Ramp Meters	63	TMS	529
Express Lane Plazas	63	Traffic Signals	1595

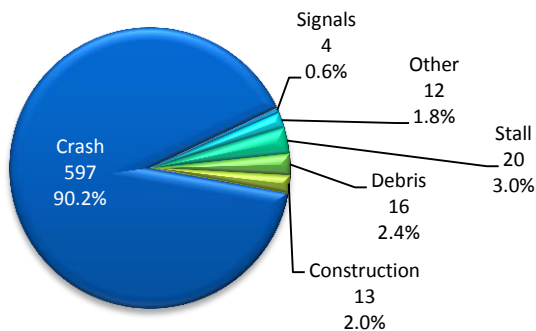
Operations Summary

VMS Messages Displayed	41,793	IMT Assists	1517
Signal Timing Work Orders	50	Website Visitor Sessions	178,658
Signal Maintenance Work Orders	135	511 Calls	20,049
All New Work Orders	413	Weather Desk Calls	475
Incident Responses by the TOC	662	Ask CommuterLink Questions	30
Incident Duration Average Minutes	54	UDOT Traffic Followers and Re-tweets	222,962

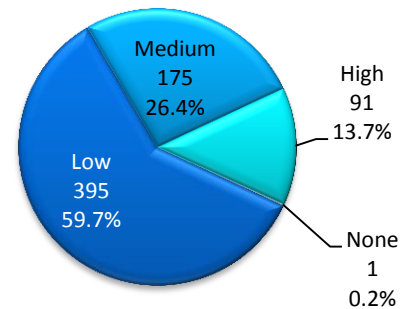
An incident response occurs each time an incident is recorded in the ATMS system. These can be of several types, including crash, construction, debris, stall, congestion, or other. Crashes are separated into three subcategories: property damage, personal injury, and fatal. Each time an incident is created, information is sent to the 511 system, the website, and to the public through email alerts. An incident remains active until it has been completely cleared from the roadway.



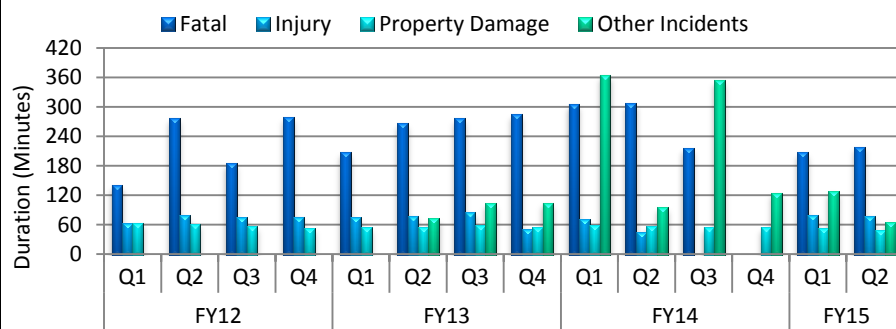
Incidents By Type for January 2015



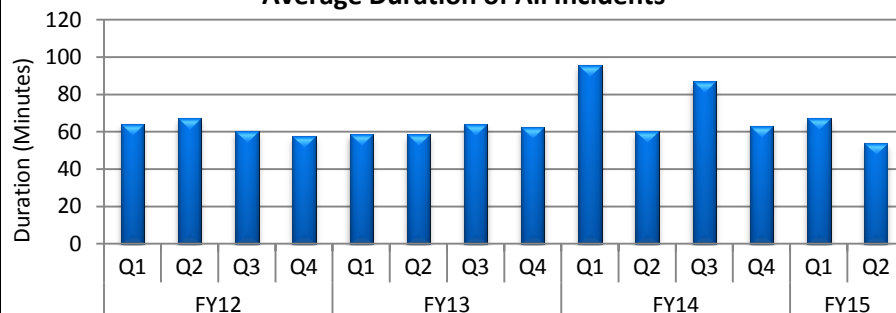
Incidents by Severity for January 2015



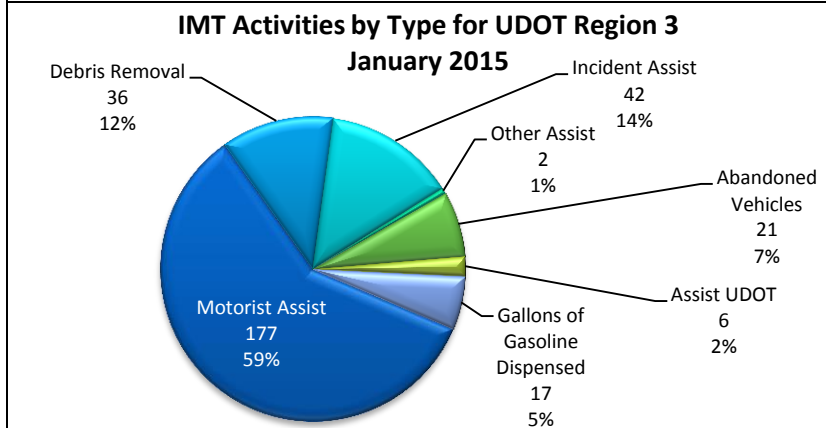
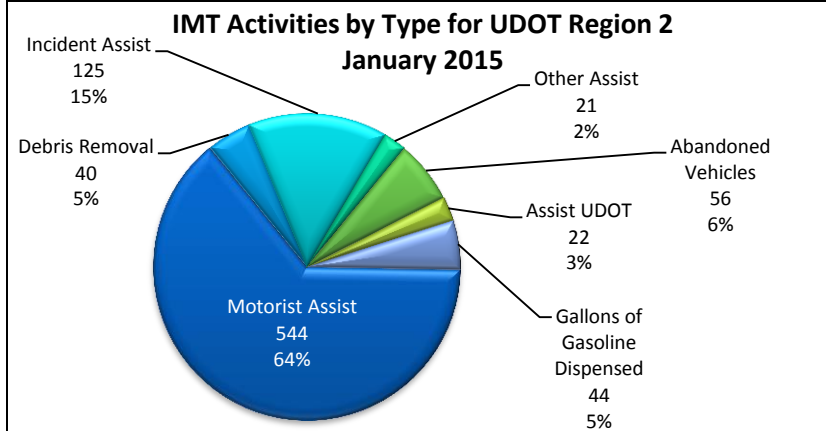
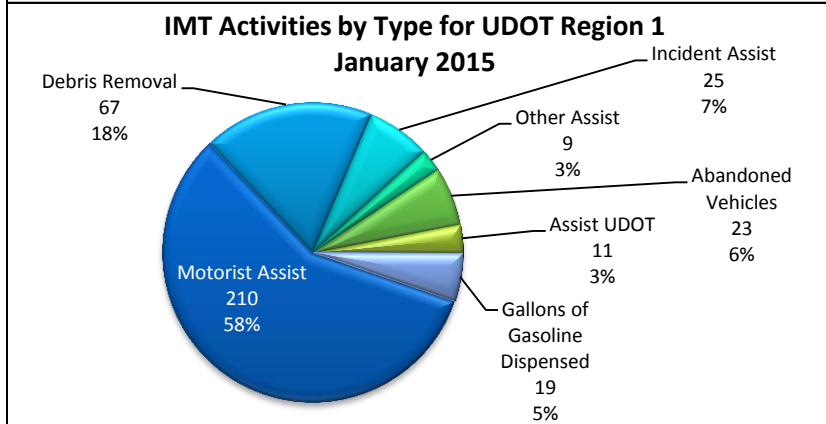
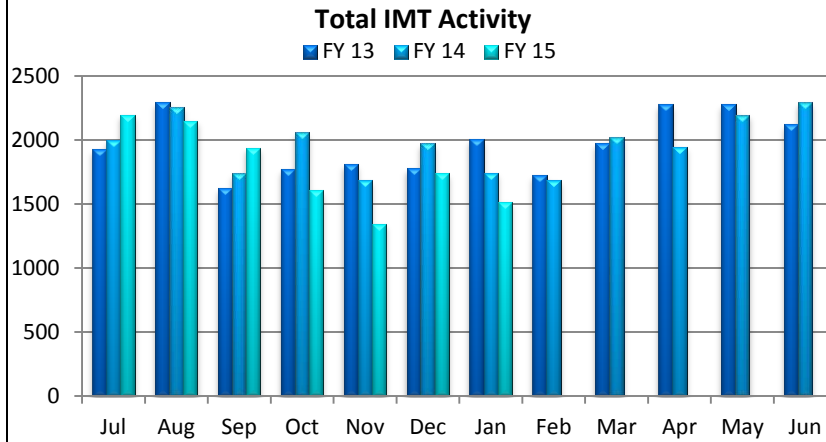
Average Crash Duration



Average Duration of All Incidents



Incident Management Team (IMT) Activities



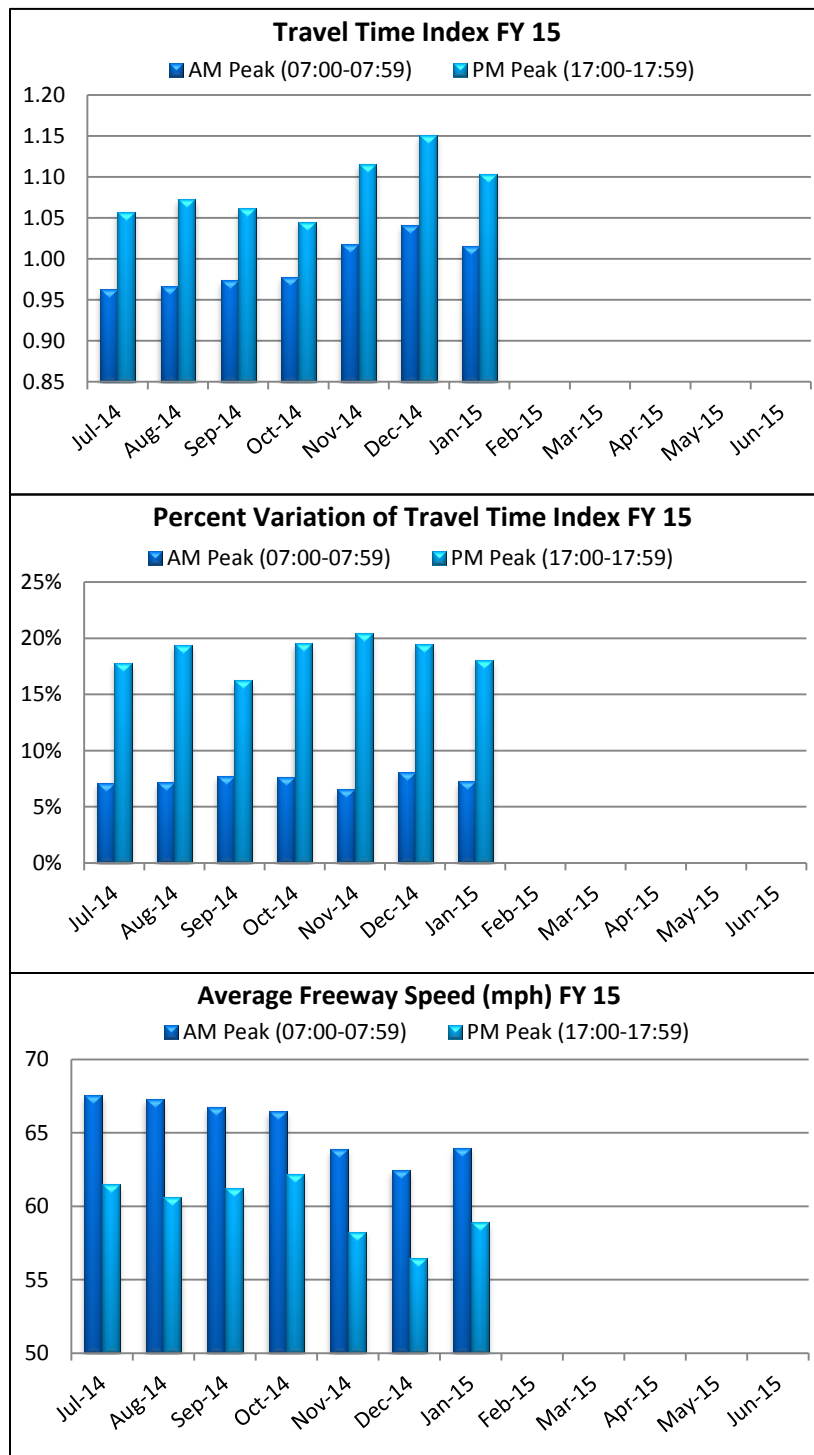
Freeway Traffic Level of Service

Freeway flow measures are taken from the Traffic Monitoring Stations (TMS) located throughout the Wasatch Front. As more TMS sites are installed throughout the state, they will be included in these performance measures.

Travel Time Index: This measure of mobility is based on freeway speeds and is weighted by segment lengths and by the traffic volume. A value of 1.0 represents free-flow speeds. A value of 1.12 indicates that the average vehicle trip takes 12% longer than if that were the only vehicle on the freeway.

Percent Variation of Travel Time Index: The percent variation in the Travel Time Index is a measure of how much the Travel Time Index changes from day-to-day.

Average Freeway Speed: The freeway speed is weighted by volume.



Freeway Traffic Level of Service

Peak Travel Time Index by Segment for January 2015

(+) Direction (NB, EB, Clockwise)

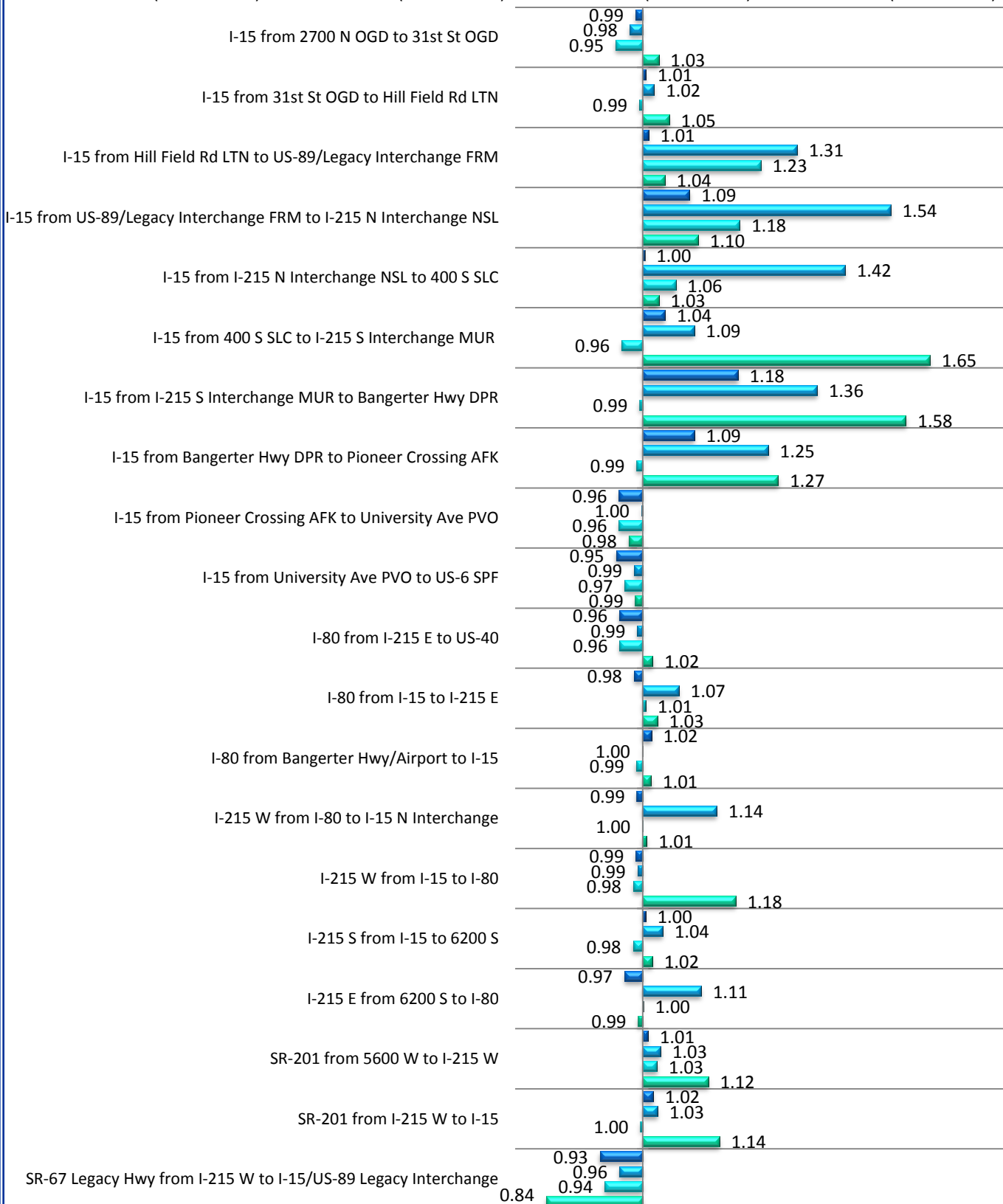
(-) Direction (SB, WB, Counter Clockwise)

■ AM Peak (07:00-07:59)

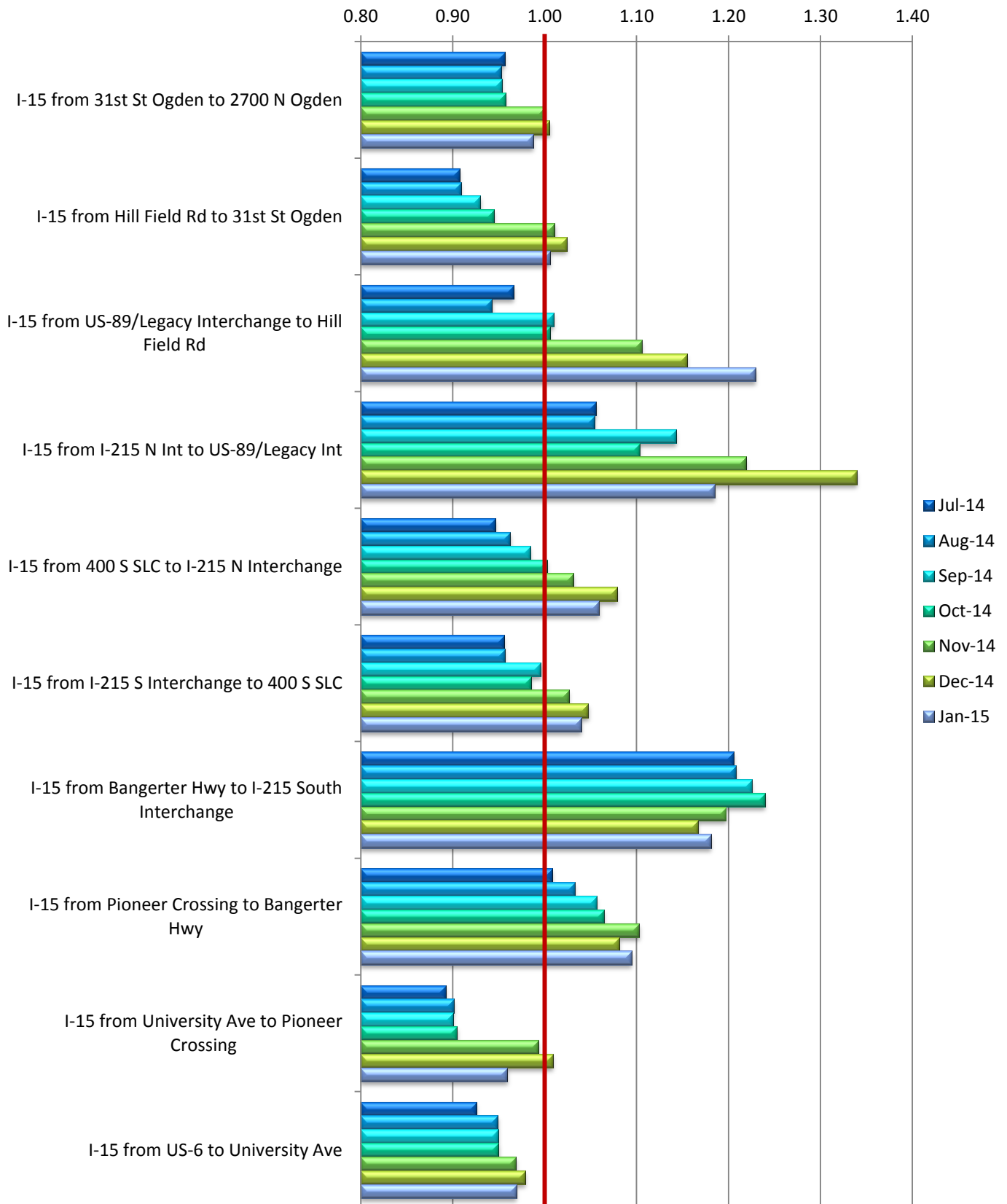
■ PM Peak (17:00-17:59)

■ AM Peak (07:00-07:59)

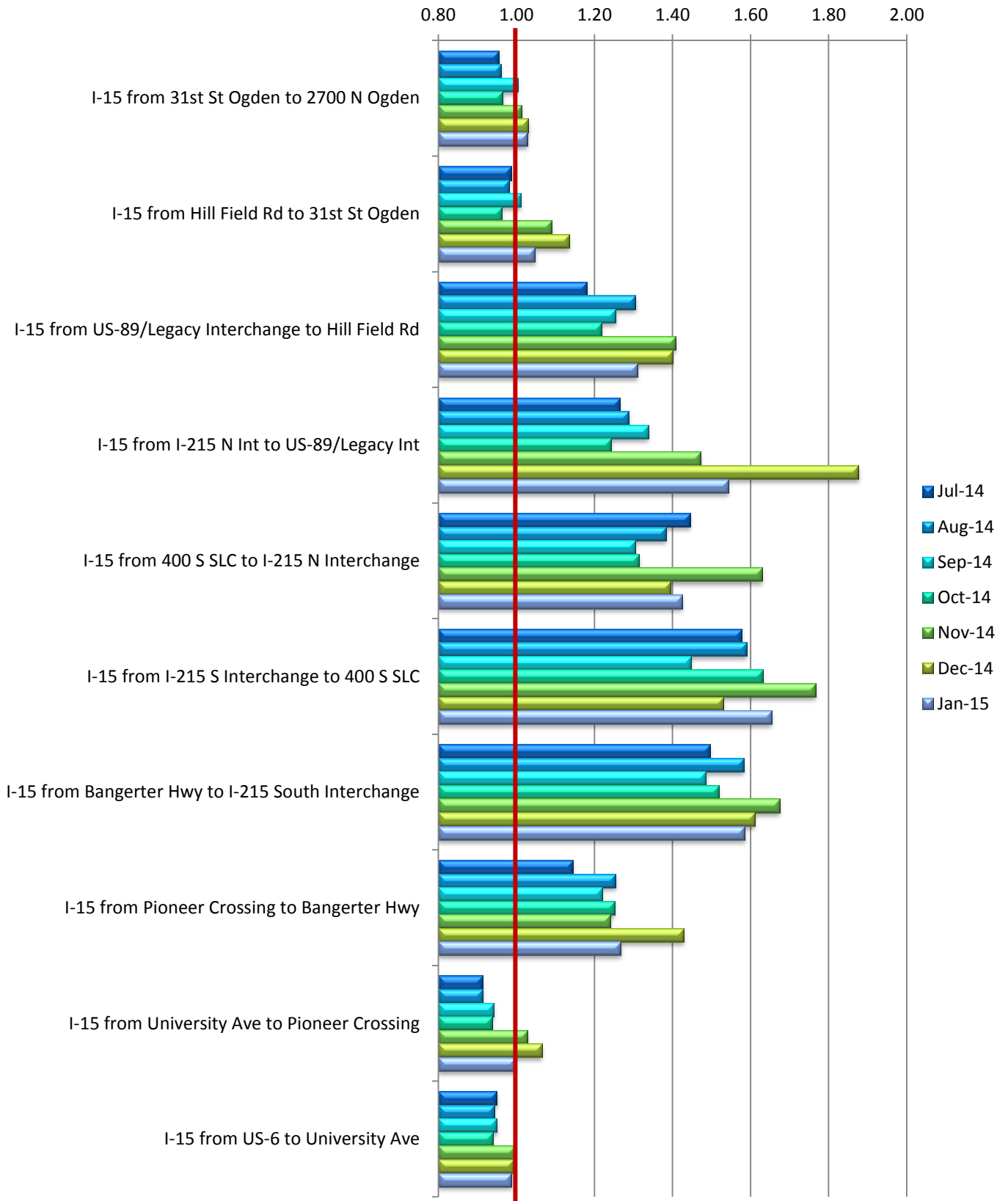
■ PM Peak (17:00-17:59)



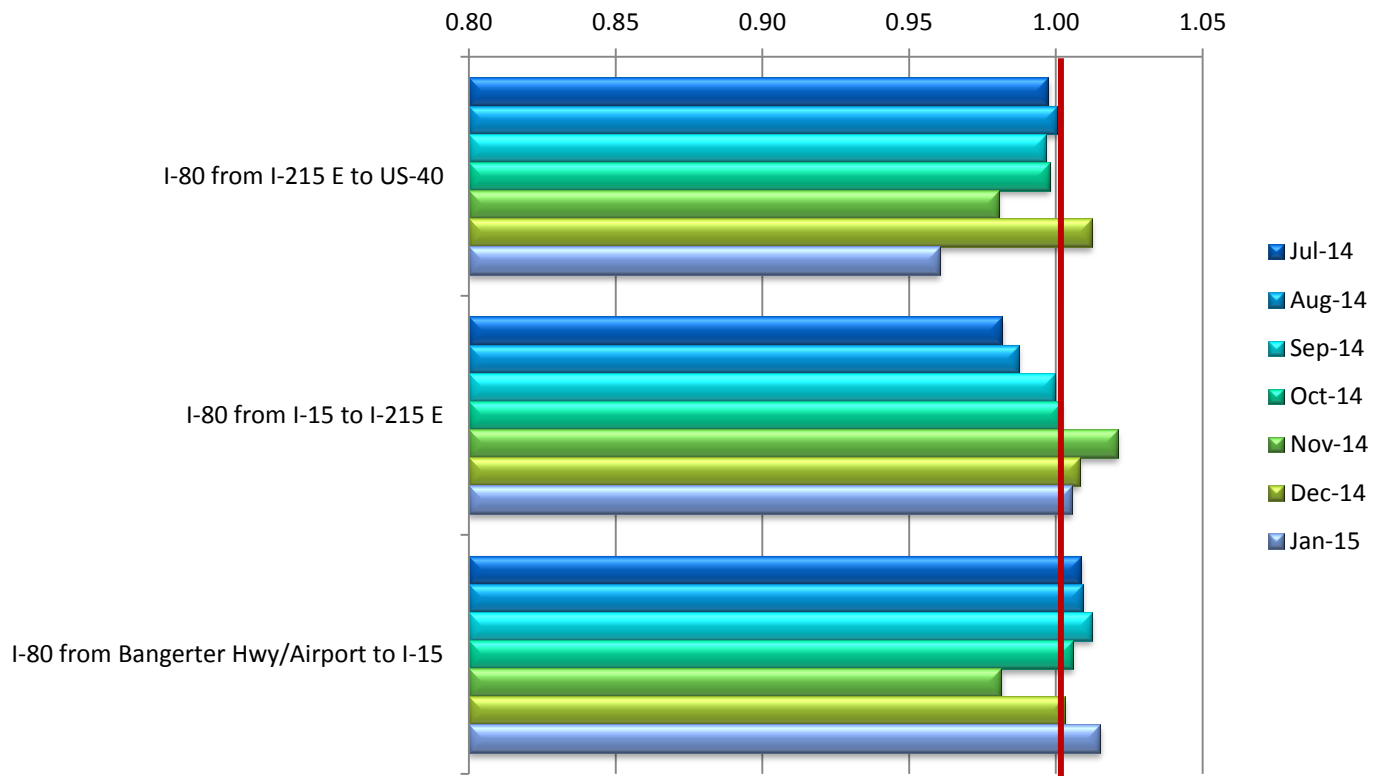
AM Peak Travel Time Index for I-15 FY 15



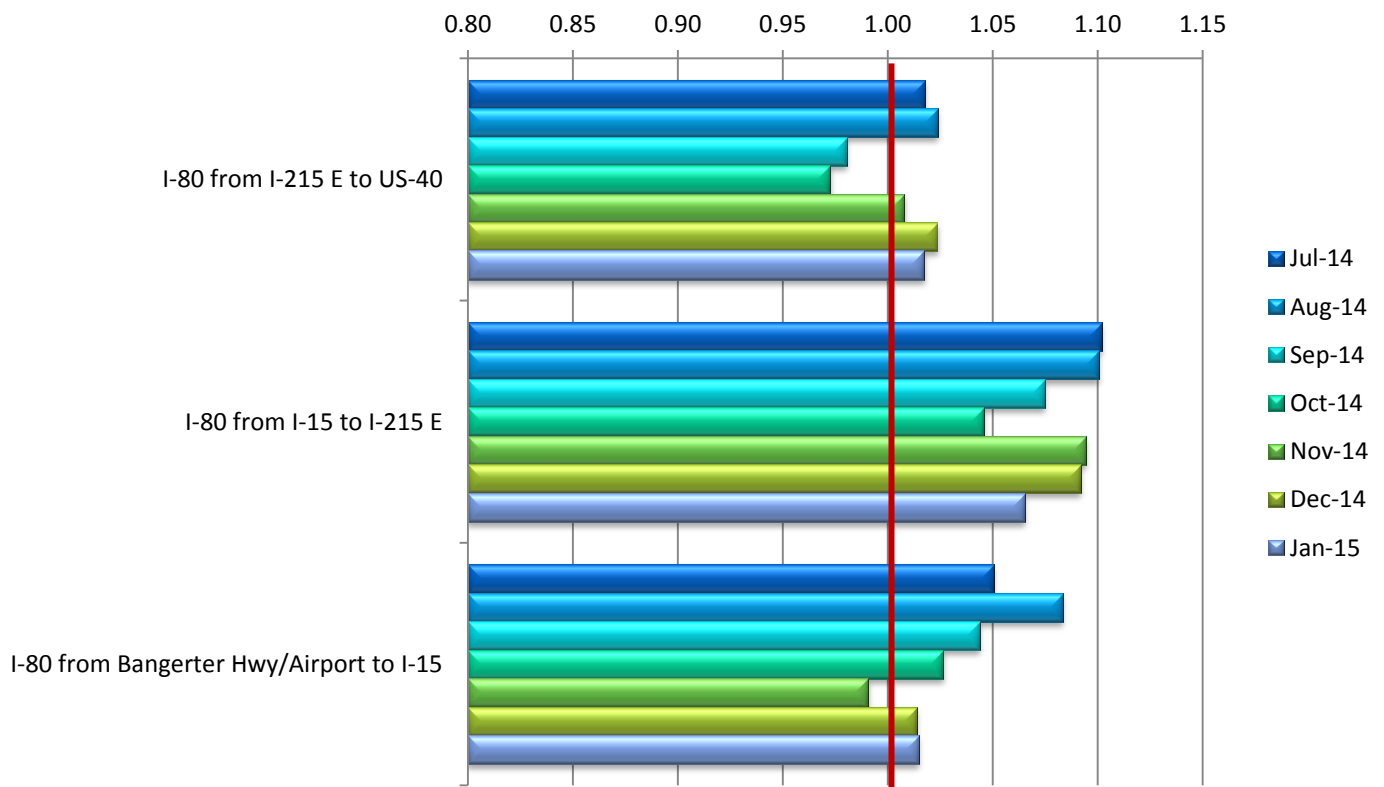
PM Peak Travel Time Index for I-15 FY 15



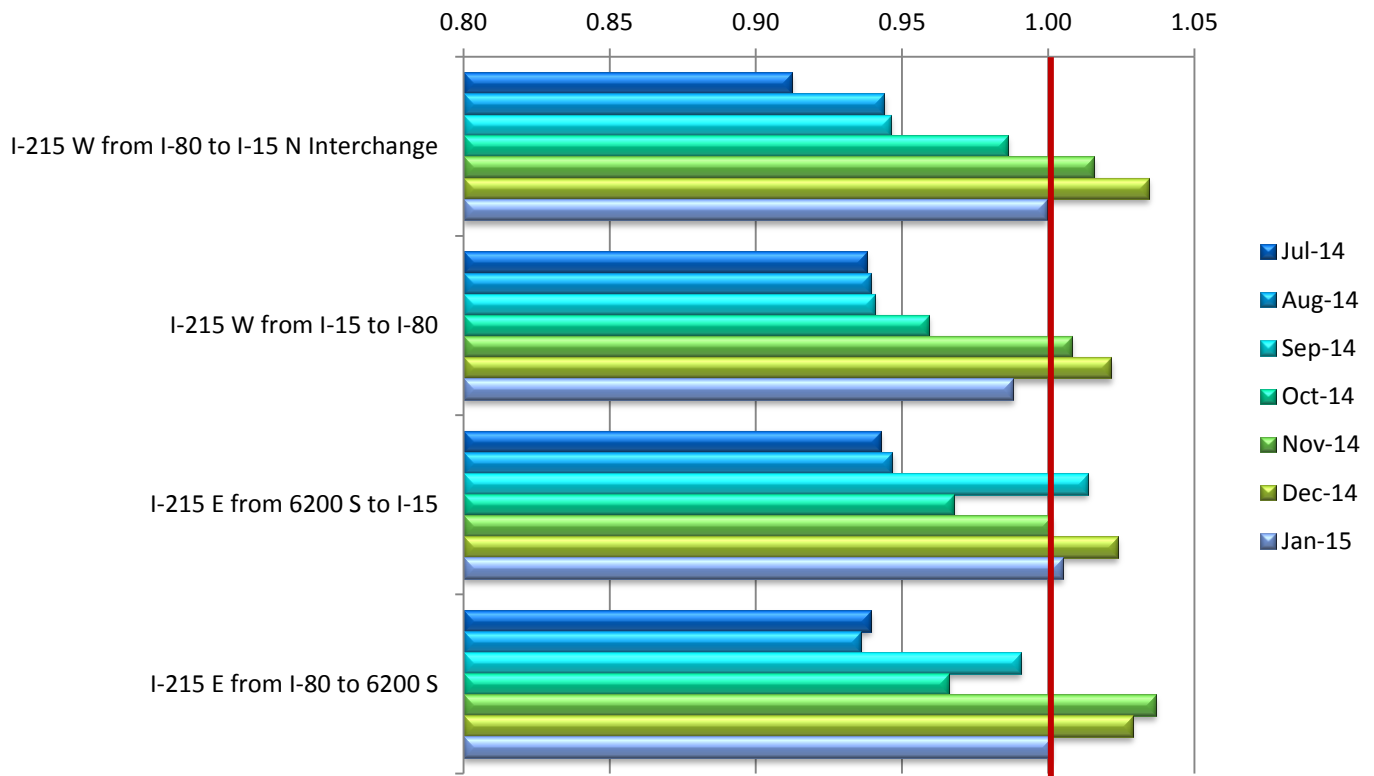
AM Peak Travel Time Index for I-80 FY 15



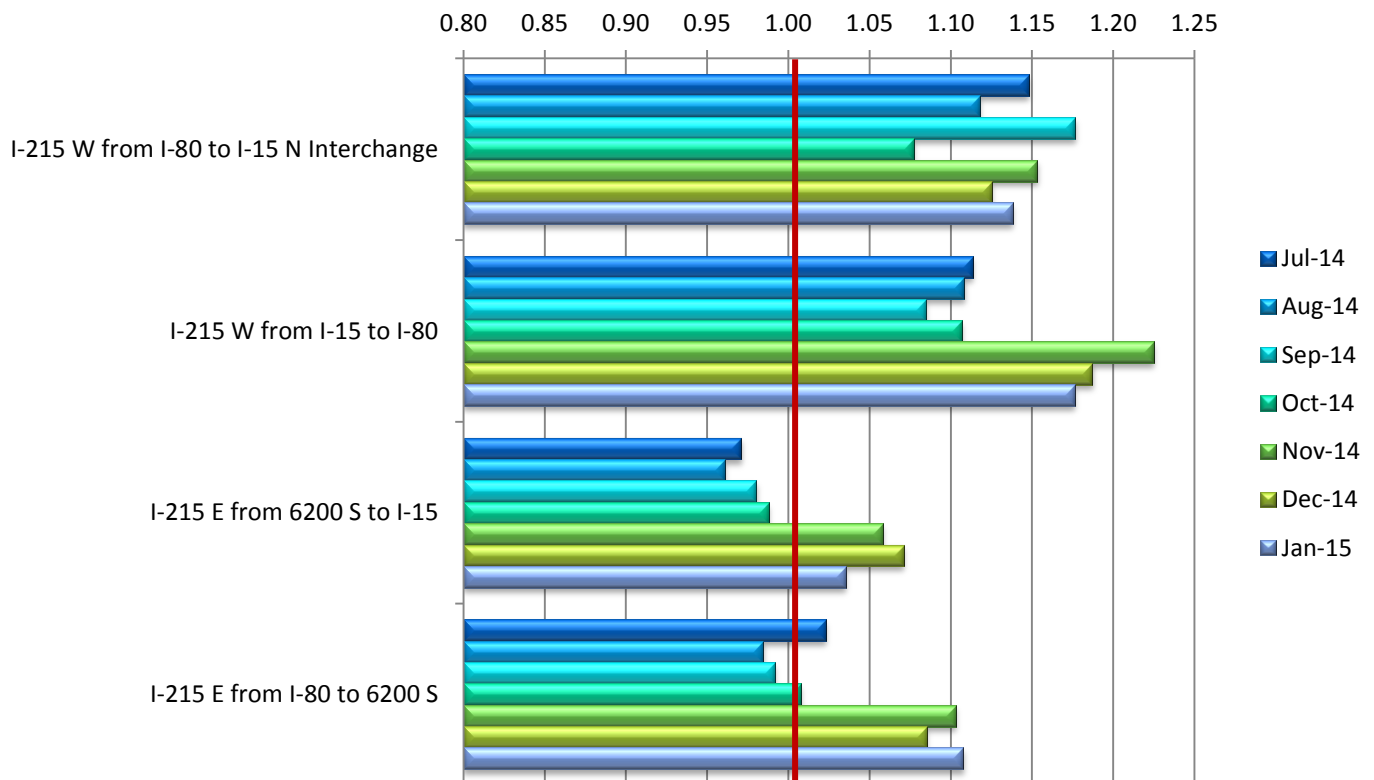
PM Peak Travel Time Index for I-80 FY 15



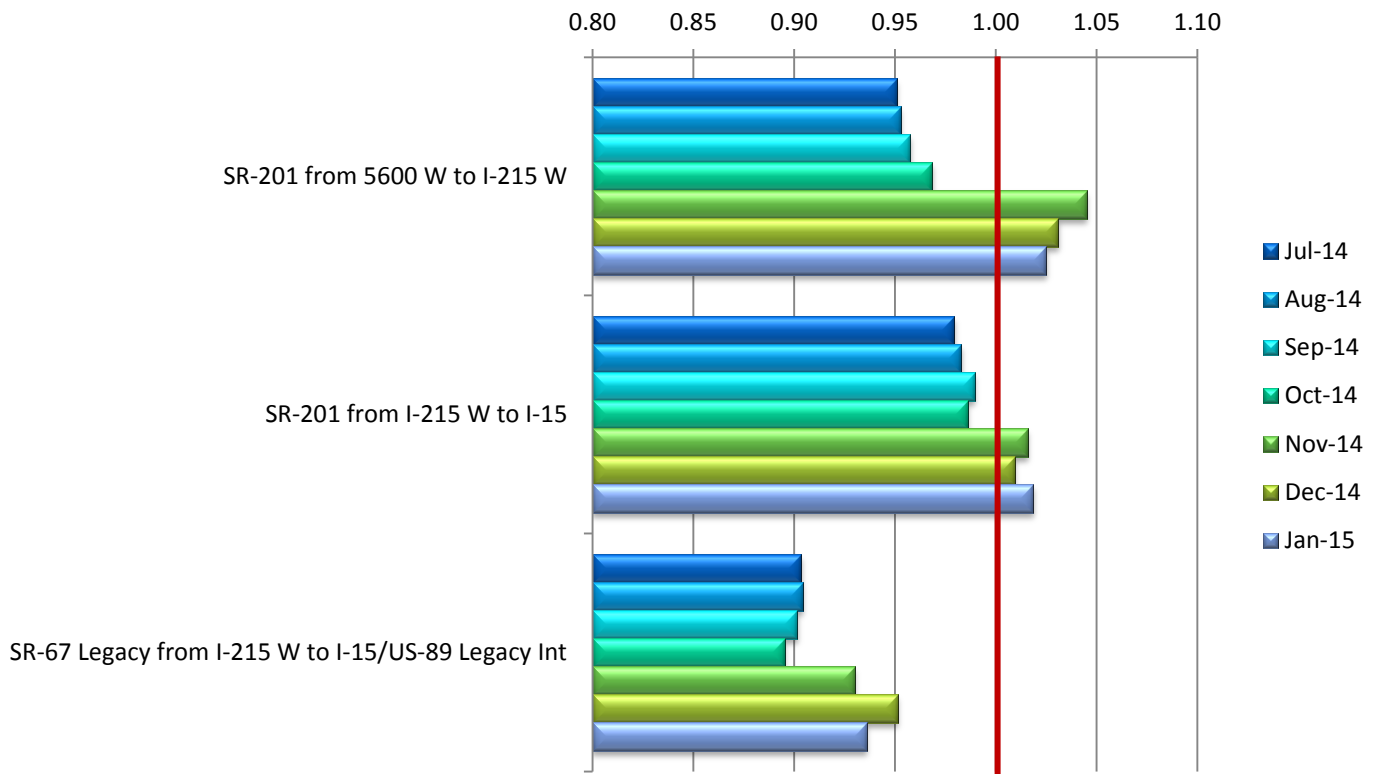
AM Peak Travel Time Index for I-215 FY 15



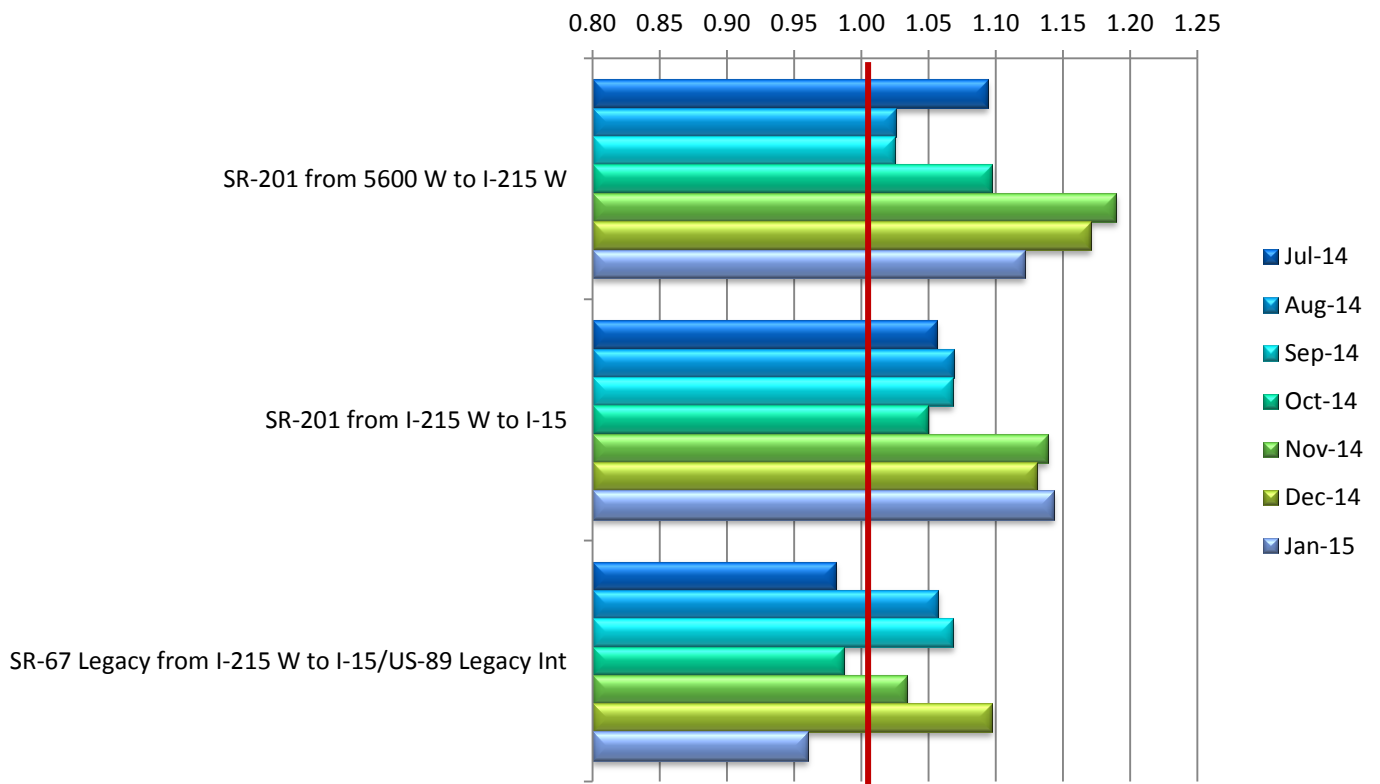
PM Peak Travel Time Index for I-215 FY 15



AM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 15

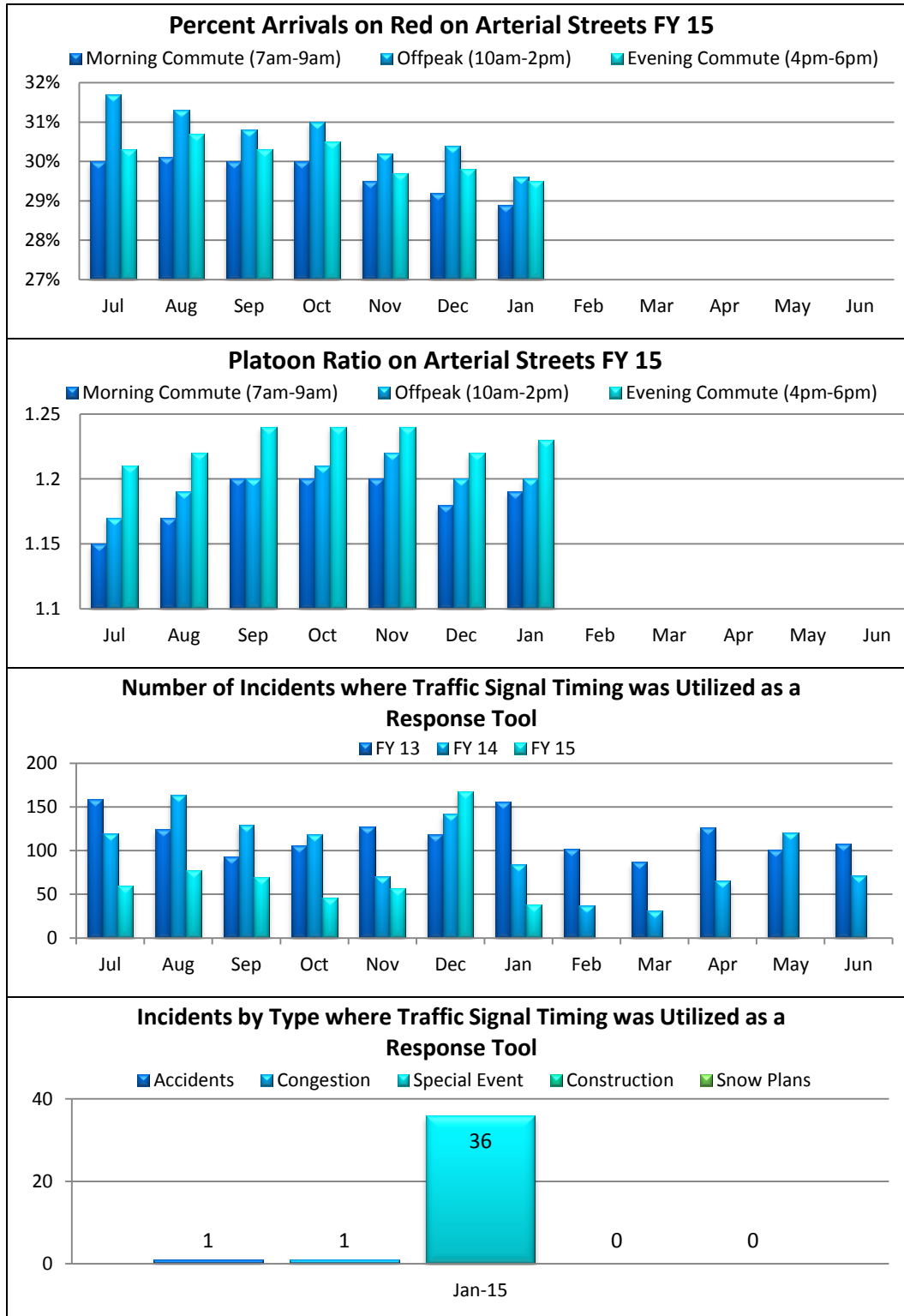


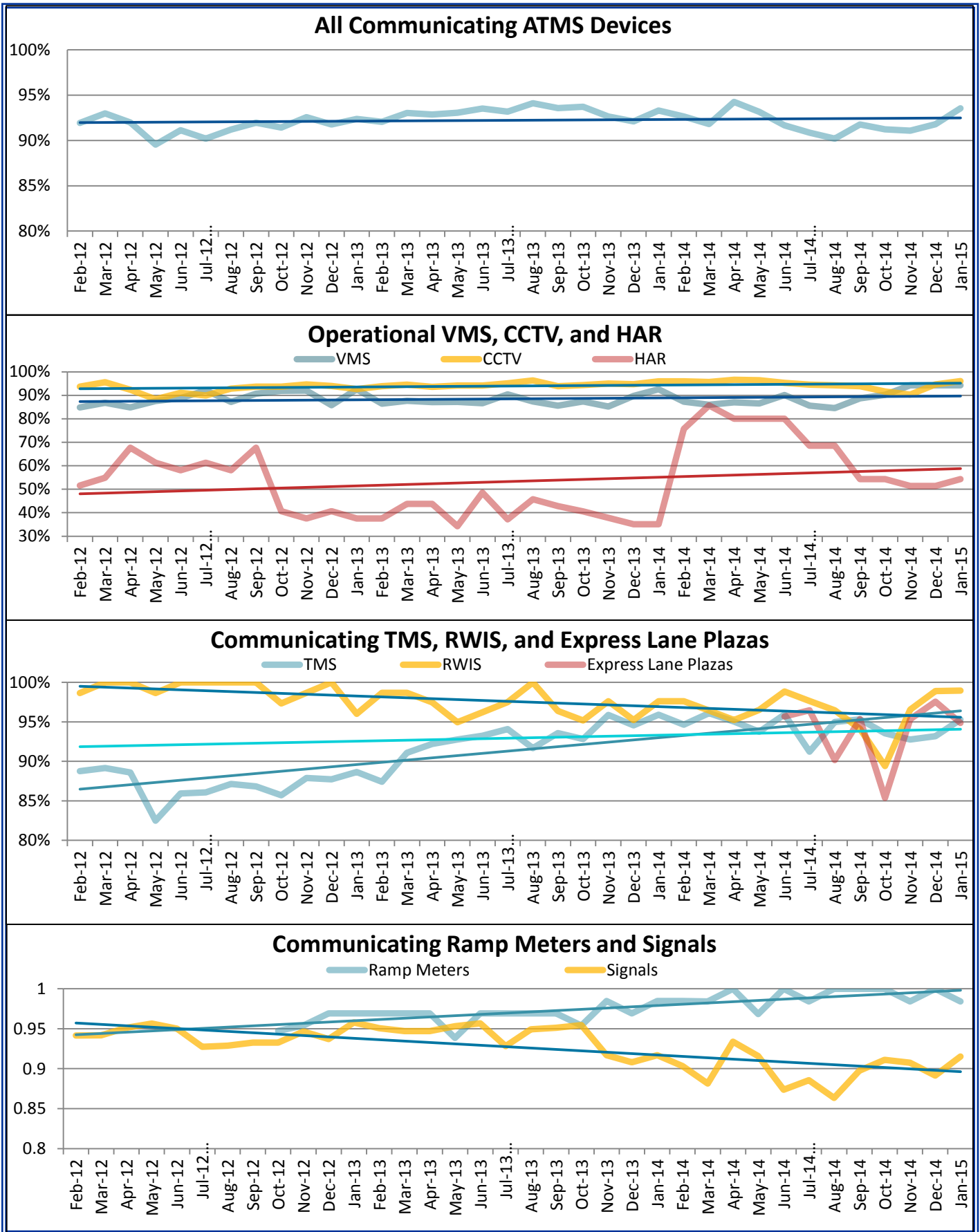
PM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 15



Arterial Traffic Level of Service

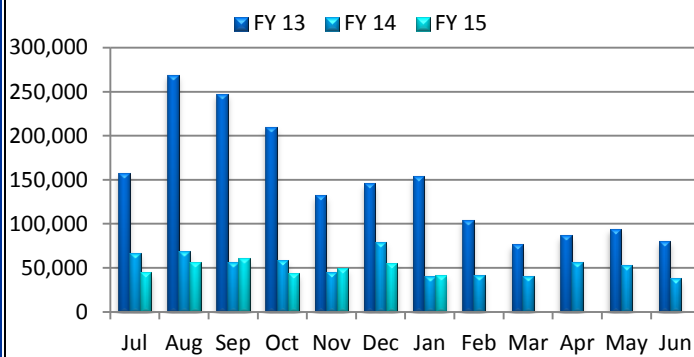
The percent arrival on red along the arterial statistics are generated automatically through the automated traffic signal performance measures, which show real-time and historical functionality at signalized intersections. The system automatically time-stamps when each vehicle arrives at the intersection and then compares the detection time-stamp if the phase was green or red. The percent arrival on red data is averaged over the 24 hours of the day and days in the month. . The lower charts shows the number of incidents where traffic signal timing was modified in order to help traffic flow around closed lanes, or to help relieve excessive congestion.



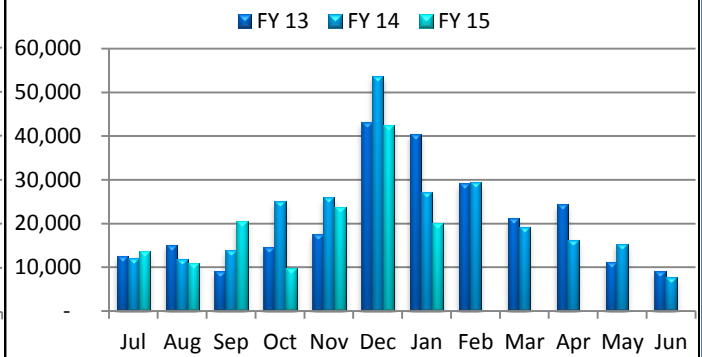


Traveler Information

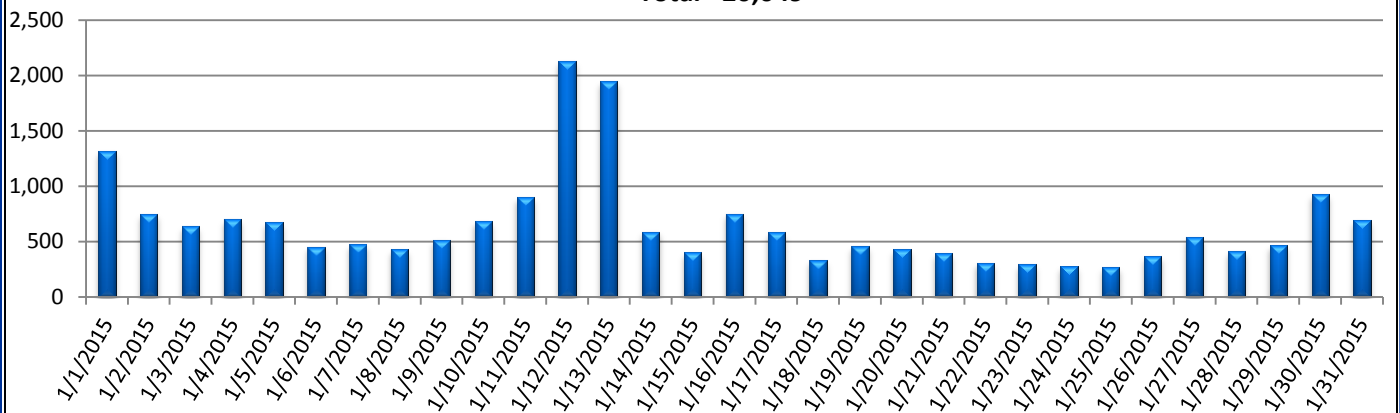
Number of VMS Messages Posted



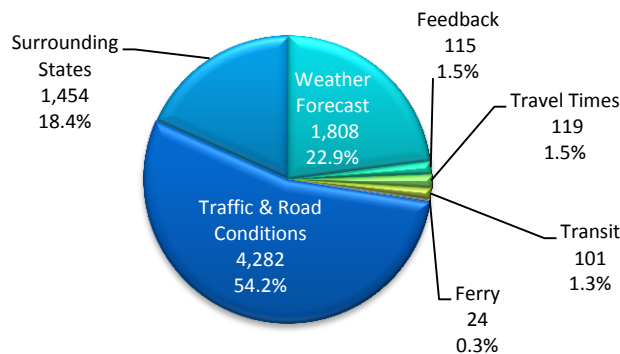
Total Number of 511 Calls



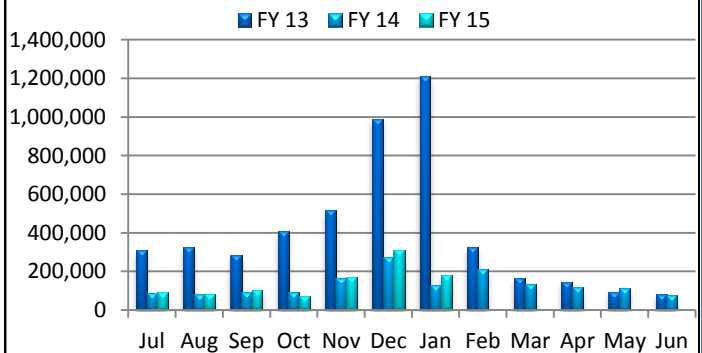
January 2015 Daily 511 Call Volumes
Total = 20,049



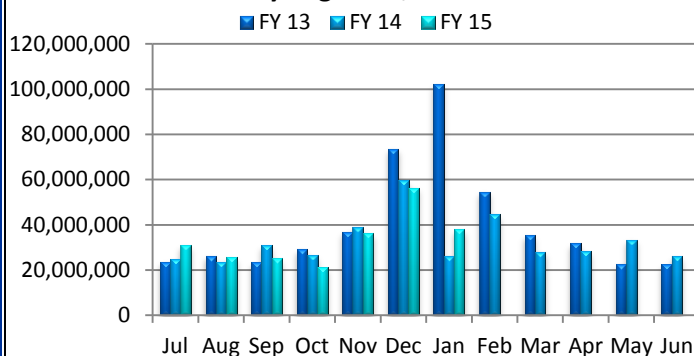
January 2015 Percentage of 511 Options



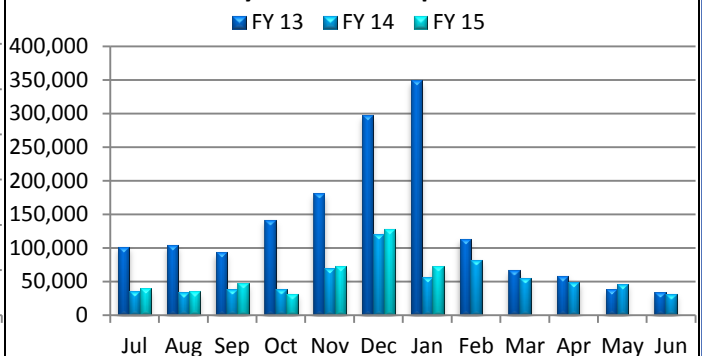
Monthly Websites Visits

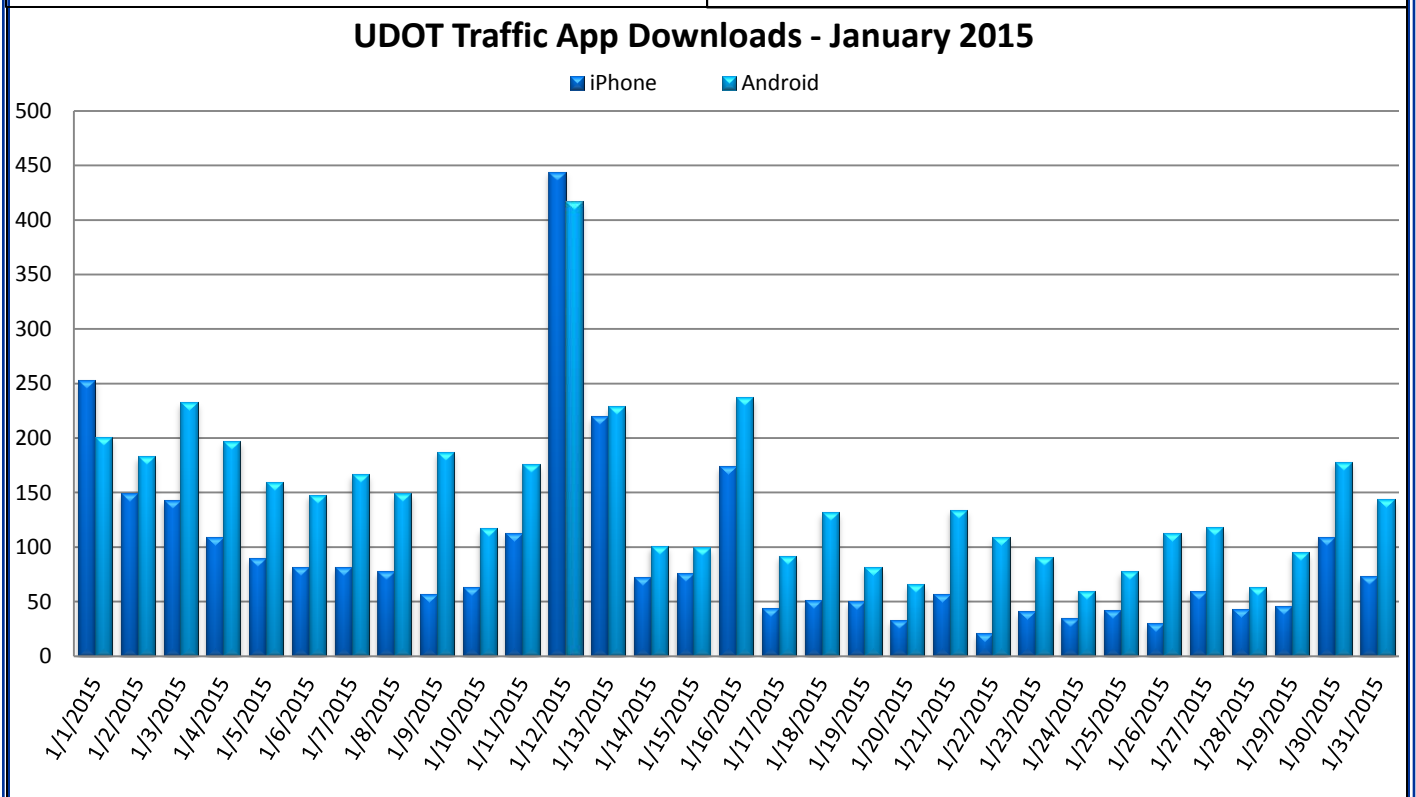
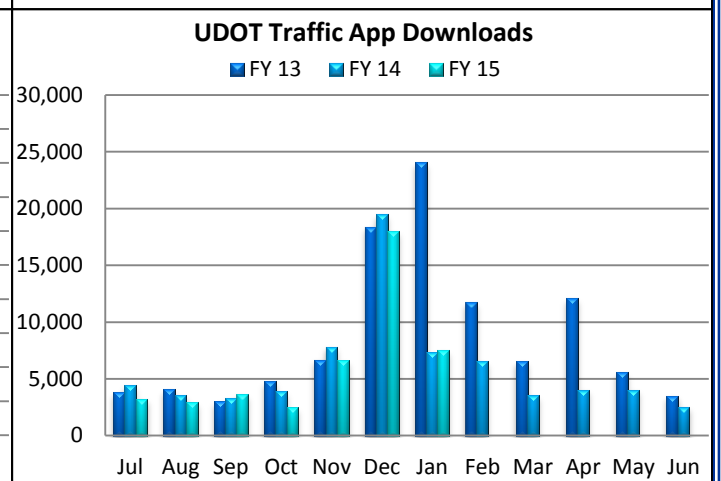
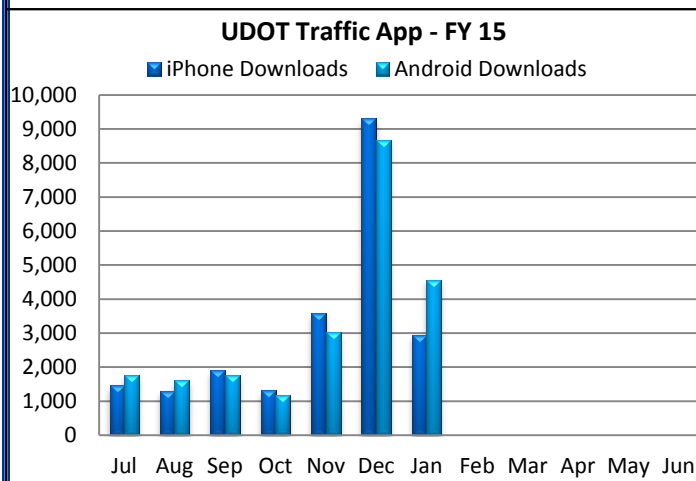
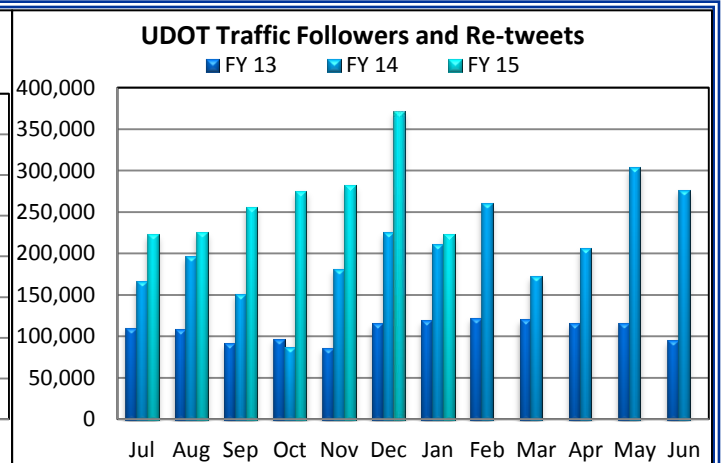
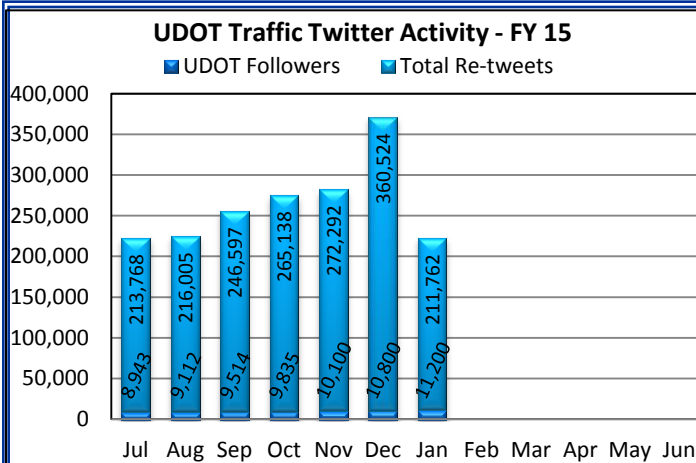


Monthly Page Hits, Entire Site

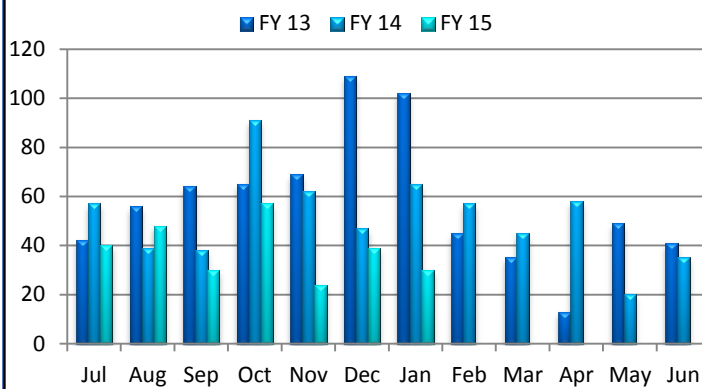


Monthly Website Unique Visitors

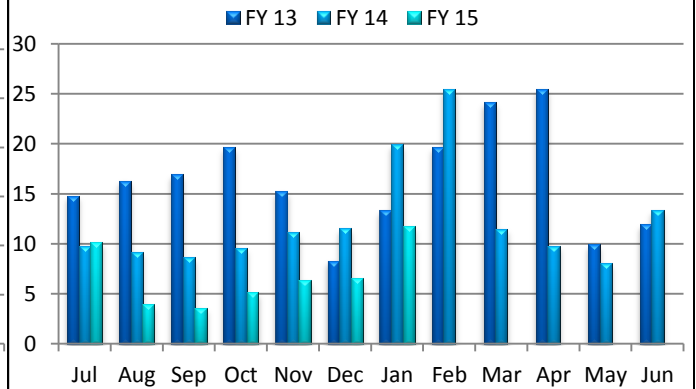




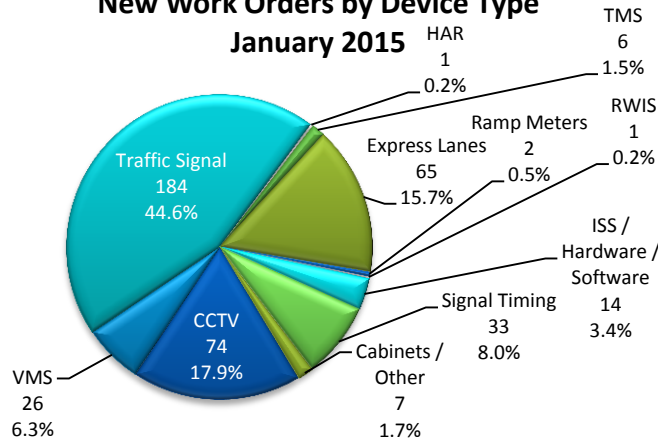
Number of "Ask UDOT Traffic" Questions



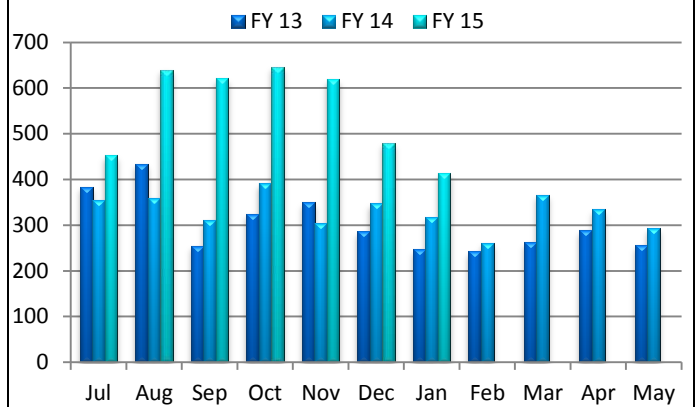
Overall Average Work Order Turnaround Days



New Work Orders by Device Type January 2015

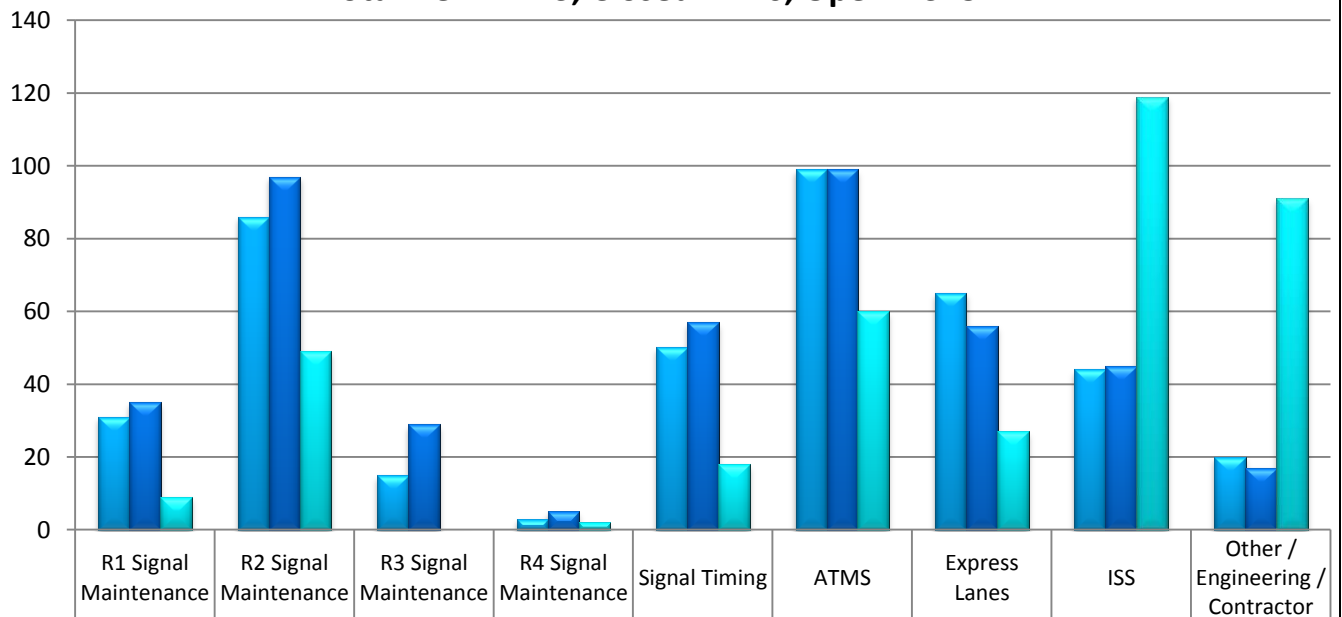


Number of New Work Orders



Work Order Statistics by Group - January 2015

Total New = 413, Closed = 440, Open = 375



New	31	86	15	3	50	99	65	44	20
Closed	35	97	29	5	57	99	56	45	17
Open	9	49	0	2	18	60	27	119	91



CONTROL ROOM

The control room activated the Manager (MIC) in Charge position several times in January, with two events being particularly noteworthy. A raised dump truck bed pulled power lines down crossing I-15 in Davis County. The power lines lay across both North and South bound lanes. This incident on January 16th closed the freeway from 4:45 a.m. to 10:00 a.m. The Legacy Highway truck prohibition was lifted because of this event. The control room, through the MIC, provided traveler information using all communication tools available, which helped the public make informed travel choices throughout the event.

Then a mere ten days later, on January 27, another set of power lines were pulled down by a raised bed on a dump truck, requiring I-80 to be closed at the I-215 interchange near 2400 West during the afternoon rush hour. The MIC was again activated to help minimize severe traffic backing and high traveler impacts. Power and telephone company crews needed to shut down I-80 traffic in both directions the following day to repair and replace the damaged wire from this event. The MIC was activated for this work also. Traveler information was sent using VMS, Traveler Alerts, and all other communication tools available.

The control room also supported Sundance Film Festival traffic in Summit County with alerts and by directing motorists to the 1700 AM HAR in the area for additional traveler information. This was all in addition to the several winter storms throughout January, and supporting annual winter pavement pothole repair. Maintenance crews needed to close travel lanes on the freeway to safely repair many of the potholes, with the control room coordinating IMT efforts and VMS messaging.



TRAVELER INFORMATION

Traveler information represented the TMD on a UDOT sponsorship program, presented at the PD Connect webinar about the lane closure program. A TOC tour for an emergency management group was led, and a TOC Interchange website was utilized for leadership use.



WEATHER INFORMATION

The Weather Group had 271 overall weather interactions with 80 outgoing alerts, 11 road weather alerts, and six National Weather Service collaborations.

Climatology

January had five days below average temperatures, but the remainder of the month was above average. Salt Lake was about five degrees warmer than normal, as well as slightly drier than normal statewide, with the exception of eastern Utah.

Weather Operations

The weather operations room participated in two tours. Five new RWIS sites were brought on line at the SR-153 summit, Hogan Pass on SR-72, I-70 near Salina, and two in Little Cottonwood Canyon.





TRAFFIC SIGNAL OPERATIONS

Region 1

Signal coordination was installed in Harrisville. New signal coordination was installed and fine tuned on Main Street in Brigham City.

Region 2

Traffic signals were rebuilt at 700 East & 3300 South and 700 East & 2700 South and were turned on. Overhead flashing school crossing beacons were installed in Magna at 8400 West & Robin Street. Alternate signal coordination plans for the adaptive signal system in Park City were developed. This alternative plan will maintain traffic platoon progression if power is interrupted.

Region 3

A new advance warning sign and LED stop sign in Provo Canyon at SR-92 was installed. A pedestrian crossing across the north leg of the State and Main intersection in Lehi was added. Work shifts were covered in St. George when the signal technician was not able to work.

Region 4

The first traffic signal in Emery County was turned on at SR-10 & 100 North. Retro-reflective tape was installed to signal head back plates in Mt. Pleasant and Ephraim.

TRAFFIC OPERATIONS AND REPORTING

The following items were worked on throughout the month of January: 1. The region three bicycle plan. 2. Managed freeways project. 3. Freeway performance measures. 3. Sunset Blvd & Bluff Street intersection. 4. The I-15 point project. 5. 2700 North in Pleasant View. 6. The Salt Lake County East/West study. 7. 10080th South State Street UTA crossing. 8. SR-73 & US 89 access evaluation. 9. Assisted Carlos Braceras in presenting at the annual ITE Conference. 10. The Pioneer Crossing & Redwood Rd analysis. 11. The I-15 mini gap evaluation in Utah County. 12. Payson LDS Temple Open House support. 13. The Tooele Main Street maintenance of traffic. 14. Provo Center Street development impacts.



ITS ASSET MANAGEMENT

Work continued on the new ATMS maintenance repair contract. A report for traffic operations and ATMS maintenance groups, identifying work orders that have been open more than 15 days was created. Four new freeway CCTV, eleven surface street CCTV, one RWIS CCTV, five RWIS, and one traffic signal were integrated, with one detection CCTV removed from service.

ATMS MAINTENANCE

Teaming

For the past five months the HOV team has been cross training with the Lab team. All three ATMS teams as well as signal operations cleaned and removed damaged or obsolete cabinets, poles, signs, and other scrap metal for the Region two yard. This scrap included cabinets, tubing, pedestrian and sign poles, static and electronic signs.

Field Team

Two RWIS weather stations had their layout changed to accommodate the required upgrading of solar equipment to increase their efficiency. The completion of this fulfilled the task of upgrading the older weather stations prior to the onset of winter. Solar upgrades and repairs were performed on two sites at or near the junction of I-80 and I-84 in Summit County. Batteries were replaced at I-15 Northbound @ 8650 South. \$40,000 worth of batteries have been ordered to replace those installed for the Willard Bay/Brigham City CCTV project and for St. George. Several hours were spent assisting one of our project contractors to trouble shoot and analyze radio problems. Two knock downs were experienced; one CCTV cabinet knockdown at I-15 Northbound @ SR-126 which included full cabinet replacement with hardware, and one ramp meter cabinet knockdown at I-15 Southbound @ 600 North with full cabinet replacement with hardware. 72 work orders were closed.



ATMS MAINTENANCE



Lab Team

Counting Digi terminal servers, traffic signal controllers, 2070 controllers, wireless radios, Wavetronix radar and CCTV a total of 14 devices were tested and/or repaired.

One traffic signal cabinet was picked up from the warehouse for SR-154 Redwood Road. Two traffic signal cabinets were picked up by Cache Valley Electric for SR-71 & 3300 S. and 2700S.

Solar batteries for an NID located at Kimball Junction mile marker 144.22 were installed to replace ones that had failed. VSL #7 was realigned because a snow plow knocked it out of alignment. Securing screws were added to the mounting brackets to prevent the sign from moving again. The electronics lab power-washed all VSL signs to remove dirt and salt from viewing surface to improve visibility. Due to a forthcoming traffic signal timing group project, the lab focused on repairing or sending all available Econolite ASC-3 controllers in for repair to accommodate the future need of these controllers. 12 NID pole mount enclosures were received from a project in which the Lab repaired the used/broken enclosures and stored them for future use. This saved \$1,444.00.

A radio link at US-89/91 SB Center Street was realigned to improve intermittent communications back to the TOC.

The electronics lab closed 16 work orders during the month of January.

Express Lanes Team

The team closed 56 system generated work orders, rebooted nine clusters, repaired and configured ten clusters, and field inspected the entire express lanes weekly for visible problems that are not addressed by the automatic system self-trouble shooting. The team also coordinated with consultants and TMD project managers on the Point Project and South Davis I-15 projects to minimize impacts to the express lane system and worked with the Point Project ATMS contractor to identify an express lane failure created when Plaza 210 was relocated.



PROJECTS

Region One

- ❖ **Statewide Signal Interconnect:** This has been changed to a larger scope and will be called Statewide Signal Interconnect. This project is in scoping.
- ❖ **Antelope and US-89:** This project is under construction.
- ❖ **200 N. 300 W. Kaysville:** This is under construction.
- ❖ **I-15; SR-30 to the Idaho State line:** This project has been designed by PineTop Engineering and is ready to advertise. This project needs major funding for ATMS. This project has been added to the STIP. There is no word yet as to funding.
- ❖ **Layton Interchange:** This project is in design.
- ❖ **200 N. and Flint St. :** This project is under construction.
- ❖ **Logan HUB relocation:** Project is under construction.
- ❖ **US-89; SR-193 to Cornia Drive:** This project is under construction.
- ❖ **US-89; Antelope Drive Extension:** This project is under construction.
- ❖ **Logan CCTV's:** This project is in design.
- ❖ **SR-126 and 1300 N. :** This project is in design.



Region Two

The I-15 point project design and preliminary engineering has been steadily picking up the pace since August. There are a lot of early design decisions that need to be made to get the design/build contractor in place to deliver a successful project. Although we are not expanding the existing ATMS, we are improving and optimizing their placement. One key success milestone is accommodating a firmly defined need for maintenance access. The contractor is designing special wider pull-out sections to allow for safer work areas for our bucket trucks to access the variable message signs, cameras and traffic monitoring devices on poles without closing any lanes of traffic. Our maintenance staff worked with the designers to make adjustments in the design to accommodate the needed space for parking maintenance vehicles.

PROJECTS



Region Three

- ❖ **SR-92 CCTV/Hybrid VMS (12641):** Ordered WB Wanco sign.
- ❖ **SR-145 Pioneer Crossing Extension to SR-73 (11349):** Fiber installation (2.5 miles) ongoing.
- ❖ **Saratoga Springs; Pony Express; SR-68 to 800 West (8581):** ATMS on hold till Spring 2015.
- ❖ **Region 3 traffic signal connections (12774):** Waiting for STATA agreement signatures to begin work in Uintah Basin. Working with Utopia to develop connection strategy for Payson signals.
- ❖ **Roosevelt; SR-121 @ State Street Signal (12078):** Waiting for STATA agreement signatures to complete fiber connection.
- ❖ **Park City Area Traveler Information Infrastructure signing (12812):** Asked by City to put project on hold until after Sundance Film Festival.
- ❖ **I-15; SR-92 to SR-73 Fiber/Conduit upgrade installation (12806):** Project transferred to The Point project. Waiting on rail road crossing permits.
- ❖ **US-40 CCTV/Signal connections (12805):** Waiting for STATA agreement signatures to complete fiber connections.
- ❖ **Orem ITS Upgrade (8755):** Project on hold.
- ❖ **Vernal; US-40 @ 2100 West Signal/CCTV (13018):** Project under construction.
- ❖ **Roosevelt; US-40 @ 2000 West Signal/CCTV (12980):** Project under construction.
- ❖ **Spanish Fork; SR-156 @ 800 North Signal/CCTV (13098):** Ordered State Furnished Equipment.
- ❖ **Orem; 800 North Extension (Vineyard) (10810):** Generated ATMS box relocation estimate.
- ❖ **Provo Canyon VSL (11410):** Project scoping meeting.

Region Four

- ❖ **St. George:** We will be working on getting a scope together to get some CCTV's and various signal interconnections.
- ❖ **Pine Creek Truck Climbing Lane:** This project is in design.
- ❖ **Fiber upgrade for US-6, Helper and Price Signal Integration:** We are still waiting for the private telecom to get their portion of work completed.
- ❖ **Beaver Truck Climbing Lane:** Project is in design.
- ❖ **I-15; North Beaver to Manderfield:** Solar deficiencies are being mitigated with the contractor.
- ❖ **Cedar City Fiber:** Project is in design.
- ❖ **Price, Helper fiber and Interconnect:** This project has been completed. We are still waiting for the telecom to complete their portion of work.
- ❖ **Beaver Shed and Fiber HUB:** This project is in design.

ITS Standards/Contracts

ITS Standards and Specifications

A new contract needed to be developed for the services that HNTB has been providing for ATMS standards development. A new contract was initiated with Narwhal Group for the work continued on the NEC NESC review of the ATMS standards and specifications. A meeting was held with Narwhal Group to discuss the scope of work to complete ePM CMS.

Procurement

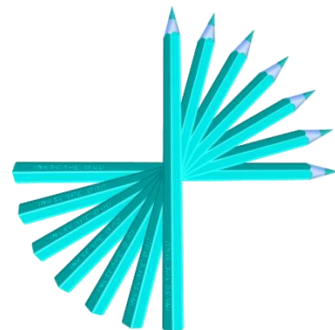
Work continued on the ATMS device install, relocate or repair contract development. The ITB for the Analog CCTV camera contract was advertised.

Special Activities

Summit Traffic Solutions visited the TOC Staff. Steve O'Connor gave a presentation on the current trends in CCTV development for both analog and IP CCTV.



Glenn Blackwelder lead the tour for the kids from Summit Christian Academy on January 27, 2015



Below is an article that was published in the "Governing" magazine in the January 2015 issue.



Last Look



DAVID KIDD

Settled by the Irish in the 1800s, the Tipperary Hill neighborhood of Syracuse, N.Y., is home to the world-renowned upside-down traffic light. How the green light came to be on top and the red light on the bottom, though, is the stuff of urban legend. When the traffic light was first installed at the intersection of Milton Avenue and Tompkins Street in 1925, it was a normal light. But when the locals saw it, it is said, they became incensed and threw stones at the traffic light, breaking it. The neighborhood Irish wouldn't allow the British red to sit atop the Irish green. The city promptly replaced the signal, and again the locals broke it. This cycle of destruction and replacement went on for a while until the city council finally relented. Ever since then, the green light has remained on top. In 1997, the city demolished an old building adjacent to the intersection and built Stone Throwers' Park, where a statue of an Irish family memorializes the story. The boy has a slingshot in his back pocket, just in case. —David Kidd

Acronyms

CCTV Closed Circuit Television	I2TMS Integrated Interagency Traffic Management System
RWIS Road-Weather Information System	TOC Traffic Operations Center
DPS Department of Public Safety	VMS Variable Message Sign
TMS Traffic Monitoring Station	ITS Intelligent Transportation System
HAR Highway Advisory Radio	TMD Traffic Management Division

